Serial Number: 09/970,517C

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CRF Processing Date: 5/14/2002
Edited by: _____
Verified by: _____ (STIC staff)

- [ ] Changed a file from non-ASCII to ASCII

- [ ] Changed the margins in cases where the sequence text was "wrapped" down to the next line.

- [ ] Edited a format error in the Current Application Data section, specifically: _____

- [ ] Edited the Current Application Data section with the actual current number. The number inputted by the applicant was [ ] the prior application data; or [ ] other _____.

- [ ] Added the mandatory heading and subheadings for "Current Application Data".

- [ ] Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

- [ ] Changed the spelling of a mandatory field (the headings or subheadings), specifically: _____

- [ ] Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: _____

- [ ] Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: _____

- [ ] Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

- [ ] Inserted colons after headings/subheadings. Headings edited included: _____

- [ ] Deleted extra, invalid, headings used by an applicant, specifically: _____

- [x] Deleted: [x] non-ASCII "garbage" at the beginning/end of files; [ ] secretary initials/filename at end of file; [ ] page numbers throughout text; [ ] other invalid text, such as _____.

- [ ] Inserted mandatory headings, specifically: _____

- [ ] Corrected an obvious error in the response, specifically: _____

- [ ] Edited identifiers where upper case is used but lower case is required, or vice versa.

- [ ] Corrected an error in the Number of Sequences field, specifically: _____

- [ ] A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

- [ ] Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____

- [ ] Other: _____
  _____
  _____
  _____

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/770,517C

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF3\05142002\I770517C.raw

```
  4 <110> APPLICANT: Mitsuhashi, Kazuya
  5         Yamamoto, Hiroaki
  6         Matsuyama, Akinobu
  7         Tokuyama, Shinji
  9 <120> TITLE OF INVENTION: D-AMINOACYLASE AND GENE ENCODING THE SAME
 11 <130> FILE REFERENCE: 06501-072001
 13 <140> CURRENT APPLICATION NUMBER: US 09/770,517C
 14 <141> CURRENT FILING DATE: 2001-01-26
 16 <150> PRIOR APPLICATION NUMBER: JP 2000-019080
 17 <151> PRIOR FILING DATE: 2000-01-27
 19 <150> PRIOR APPLICATION NUMBER: JP 2000-150578
 20 <151> PRIOR FILING DATE: 2000-05-22
 22 <160> NUMBER OF SEQ ID NOS: 27
 24 <170> SOFTWARE: PatentIn Ver. 2.0
 26 <210> SEQ ID NO: 1
 27 <211> LENGTH: 1677
 28 <212> TYPE: DNA
 29 <213> ORGANISM: Hypomyces mycophilus
 31 <400> SEQUENCE: 1
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 33 ccctttgtgg ccgatgtgct ggtttcgaag ggactgattg ccaagattgg taaccccggt  120
 34 tccatcaatg caactccaga tacgcggcat ctcgacgtca caggctacat tctatctcct  180
 35 ggtttcatcg atatgcatgc gcattcagac ctctacctac tctctcatcc tgaccacgag  240
 36 gccaaaatca cccaaggatg cacaacggaa gttgtgggcc aagacgggat atcatatgca  300
 37 ccaattcgta atgtagacca gttgagggcg atccgagaac agattgctgg atggaatggc  360
 38 aatcctacag atgaggagtg ccggacaact ctcaaaggcg ttggcatgtt tgaatggcag  420
 39 actattgggg aatacttgga ttgtttggag agaaacagga cggccactaa tgtcgccatg  480
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 41 gcagaagaga ttcaagatca aatccagctc ttgcgagagg ctatggctca gggtgctgtc  600
 42 gggatgtcta gtggtctcac ttatacaccc ggcatgtatg cttccacgtc ggaactagct  660
 43 tctctgtgcg cggccctcgc acaagaattt ccaggtgcat tctatgcgcc acatcataga  720
 44 agttatgggt tccaggccat cgaaagttat gccgaaatgt ggatctcgg agagtcaaca  780
 45 ggctgtccca ttctctttac acatgcaacg ctcaactttt cagaaaataa gggtaaagct  840
 46 cctgtcctca tctctatggt tgataaatct cttgctgcag gcgtggatgt cacacttgat  900
 47 acgtatccat acttgccagg ctgtacaact ctggctgcat tgttgccaag ttgggcatct  960
 48 gctggcggcc acaagagac gcttaaaagg cttgaggatg cagaatcgag agaaaagatt 1020
 49 cgtatagccg tggaaatcaa agggtgtgat ggcggccatg gtattccaac caactgggac 1080
 50 gaaatccaga tcgggacgac taatgaacca tcaatcgcat cgtattctgg tcgcaggcta 1140
 51 tcagaagtgg cacagtctgt tggaaagccg accatcgaag tcttttttcga gattctgcaa 1200
 52 aaggataagc tcgcaacgag ctgtatcatg catgttggca atgaagaaaa cgtccgacag 1260
 53 atcatgcagc atcgggtcca tatggcaggc agtgatggga tcttgcacgg gcagacgcta 1320
 54 cacccacgag cttatggcac attcacgcgg tatttaggac actattctcg tgaactctcg 1380
 55 cttgttgctc tgccgtccat gatcgctcac cttacatcac ggcccgccaa acgactttcg 1440
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RAW SEQUENCE LISTING   DATE: 05/14/2002
PATENT APPLICATION: US/09/770,517C TIME: 18:29:08

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF3\05142002\I770517C.raw

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57 cccgaaacgg taaaggatat gtcgacgtat gaagagccaa aggtgccaag tcggggcatt 1560
58 agatttgttc tagttaacgg ccagatagct gtggacgaag gcaagatgac aggcacaaga 1620
59 gggggtaaaa cactgagaag aagcaccgat ggcaaggtga aggcaagaga tgagtaa    1677
61 <210> SEQ ID NO: 2
62 <211> LENGTH: 558
63 <212> TYPE: PRT
64 <213> ORGANISM: Hypomyces mycophilus
66 <400> SEQUENCE: 2
67 Met Arg Thr Glu Ile Leu Phe His Ser Ala Thr Val Ile Thr Gly Asp
68  1               5                  10                  15
69 Glu Ala Ala Gln Pro Phe Val Ala Asp Val Leu Val Ser Lys Gly Leu
70              20                  25                  30
71 Ile Ala Lys Ile Gly Asn Pro Gly Ser Ile Asn Ala Thr Pro Asp Thr
72          35                  40                  45
73 Arg His Leu Asp Val Thr Gly Tyr Ile Leu Ser Pro Gly Phe Ile Asp
74      50                  55                  60
75 Met His Ala His Ser Asp Leu Tyr Leu Leu Ser His Pro Asp His Glu
76  65                  70                  75                  80
77 Ala Lys Ile Thr Gln Gly Cys Thr Thr Glu Val Val Gly Gln Asp Gly
78                  85                  90                  95
79 Ile Ser Tyr Ala Pro Ile Arg Asn Val Asp Gln Leu Arg Ala Ile Arg
80              100                 105                 110
81 Glu Gln Ile Ala Gly Trp Asn Gly Asn Pro Thr Asp Glu Glu Cys Arg
82          115                 120                 125
83 Thr Thr Leu Lys Gly Val Gly Met Phe Glu Trp Gln Thr Ile Gly Glu
84      130                 135                 140
85 Tyr Leu Asp Cys Leu Glu Arg Asn Arg Thr Ala Thr Asn Val Ala Met
86 145                 150                 155                 160
87 Leu Val Pro Gln Gly Asn Leu Arg Leu Leu Ala Cys Gly Pro Tyr Asp
88                  165                 170                 175
89 Thr Pro Ala Ser Ala Glu Glu Ile Gln Asp Gln Ile Gln Leu Leu Arg
90              180                 185                 190
91 Glu Ala Met Ala Gln Gly Ala Val Gly Met Ser Ser Gly Leu Thr Tyr
92          195                 200                 205
93 Thr Pro Gly Met Tyr Ala Ser Thr Ser Glu Leu Ala Ser Leu Cys Ala
94      210                 215                 220
95 Ala Leu Ala Gln Glu Phe Pro Gly Ala Phe Tyr Ala Pro His His Arg
96 225                 230                 235                 240
97 Ser Tyr Gly Phe Gln Ala Ile Glu Ser Tyr Ala Glu Met Leu Asp Leu
98                  245                 250                 255
99 Gly Glu Ser Thr Gly Cys Pro Ile His Leu Thr His Ala Thr Leu Asn
100              260                 265                 270
101 Phe Ser Glu Asn Lys Gly Lys Ala Pro Val Leu Ile Ser Met Val Asp
102          275                 280                 285
103 Lys Ser Leu Ala Ala Gly Val Asp Val Thr Leu Asp Thr Tyr Pro Tyr
104      290                 295                 300
105 Leu Pro Gly Cys Thr Thr Leu Ala Ala Leu Leu Pro Ser Trp Ala Ser
106 305                 310                 315                 320
```

```
107 Ala Gly Gly Pro Gln Glu Thr Leu Lys Arg Leu Glu Asp Ala Glu Ser
108                 325             330             335
109 Arg Glu Lys Ile Arg Ile Ala Val Glu Ile Lys Gly Cys Asp Gly Gly
110                 340             345             350
111 His Gly Ile Pro Thr Asn Trp Asp Glu Ile Gln Ile Gly Thr Thr Asn
112             355             360             365
113 Glu Pro Ser Ile Ala Ser Tyr Ser Gly Arg Arg Leu Ser Glu Val Ala
114         370             375             380
115 Gln Ser Val Gly Lys Pro Thr Ile Glu Val Phe Phe Glu Ile Leu Gln
116 385             390             395             400
117 Lys Asp Lys Leu Ala Thr Ser Cys Ile Met His Val Gly Asn Glu Glu
118             405             410             415
119 Asn Val Arg Gln Ile Met Gln His Arg Val His Met Ala Gly Ser Asp
120             420             425             430
121 Gly Ile Leu His Gly Gln Thr Leu His Pro Arg Ala Tyr Gly Thr Phe
122             435             440             445
123 Thr Arg Tyr Leu Gly His Tyr Ser Arg Glu Leu Ser Leu Val Ala Leu
124         450             455             460
125 Pro Ser Met Ile Ala His Leu Thr Ser Arg Pro Ala Lys Arg Leu Ser
126 465             470             475             480
127 Val Tyr Pro Tyr Arg Gly Leu Ile Ala Glu Gly Ser Ala Ala Asp Ile
128             485             490             495
129 Val Val Phe Asn Pro Glu Thr Val Lys Asp Met Ser Thr Tyr Glu Glu
130             500             505             510
131 Pro Lys Val Pro Ser Arg Gly Ile Arg Phe Val Leu Val Asn Gly Gln
132         515             520             525
133 Ile Ala Val Asp Glu Gly Lys Met Thr Gly Thr Arg Gly Gly Lys Thr
134         530             535             540
135 Leu Arg Arg Ser Thr Asp Gly Lys Val Lys Ala Arg Asp Glu
136 545             550             555
138 <210> SEQ ID NO: 3
139 <211> LENGTH: 20
140 <212> TYPE: DNA
141 <213> ORGANISM: Artificial Sequence
143 <220> FEATURE:
144 <223> OTHER INFORMATION: Artificially Synthesized Primer Sequence
146 <400> SEQUENCE: 3
147 cccggcttca tcgacatgca                                       20
149 <210> SEQ ID NO: 4
150 <211> LENGTH: 20
151 <212> TYPE: DNA
152 <213> ORGANISM: Artificial Sequence
154 <220> FEATURE:
155 <223> OTHER INFORMATION: Artificially Synthesized Primer Sequence
157 <221> NAME/KEY: misc_feature
158 <222> LOCATION: 18
159 <223> OTHER INFORMATION: n = A,T,C or G
161 <400> 4
162 ttcatcgaca tgcaygcnca                                       20
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W--> 157
W--> 161
W--> 162

RAW SEQUENCE LISTING   DATE: 05/14/2002
PATENT APPLICATION: US/09/770,517C   TIME: 18:29:08

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF3\05142002\I770517C.raw

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      166 <212> TYPE: DNA
      167 <213> ORGANISM: Artificial Sequence
      169 <220> FEATURE:
      170 <223> OTHER INFORMATION: Artificially Synthesized Primer Sequence
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      173 <222> LOCATION: 3, 6, 15
      174 <223> OTHER INFORMATION: n = A,T,C or G
W--> 176 <400> 5
W--> 177 tgnggngcrt craangcytg                                         20
      179 <210> SEQ ID NO: 6
      180 <211> LENGTH: 20
      181 <212> TYPE: DNA
      182 <213> ORGANISM: Artificial Sequence
      184 <220> FEATURE:
      185 <223> OTHER INFORMATION: Artificially Synthesized Primer Sequence
W--> 187 <221> NAME/KEY: misc_feature
      188 <222> LOCATION: 3, 9
      189 <223> OTHER INFORMATION: n = A,T,C or G
W--> 191 <400> 6
W--> 192 aangcytgng grtaytcrtc                                         20
      194 <210> SEQ ID NO: 7
      195 <211> LENGTH: 321
      196 <212> TYPE: DNA
      197 <213> ORGANISM: Hypomyces mycophilus
      199 <400> SEQUENCE: 7
      200 ttcatcgaca tgcatgcgca gctggatggt caaccttgac aactacaaca agatactctc  60
      201 tgtagacaaa aaatcggggg tcgtggtcat gcagagcggc attcgactat acaccctttg 120
      202 cgaagagctg gagctacatg gcctggcaat gccgaacctg ggcagtataa acgagcaatc 180
      203 catcgccggc gccatatcta caggcacaca cggcagcagc atccaccacg gcctcatgtc 240
      204 tgaggatatt ctcgctctga aaatcactct cgcgggcggc aagacggagg catgctccaa 300
      205 agacgaatac ccccaagcct t                                          321
      207 <210> SEQ ID NO: 8
      208 <211> LENGTH: 20
      209 <212> TYPE: DNA
      210 <213> ORGANISM: Artificial Sequence
      212 <220> FEATURE:
      213 <223> OTHER INFORMATION: Artificially Synthesized Primer Sequence
      215 <400> SEQUENCE: 8
      216 aggccaaaat cacccaagga                                          20
      218 <210> SEQ ID NO: 9
      219 <211> LENGTH: 20
      220 <212> TYPE: DNA
      221 <213> ORGANISM: Artificial Sequence
      223 <220> FEATURE:
      224 <223> OTHER INFORMATION: Artificially Synthesized Primer Sequence
      226 <400> SEQUENCE: 9
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```
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230 <211> LENGTH: 20
231 <212> TYPE: DNA
232 <213> ORGANISM: Artificial Sequence
234 <220> FEATURE:
235 <223> OTHER INFORMATION: Artificially Synthesized Primer Sequence
237 <400> SEQUENCE: 10
238 ctggttcttt ccgcctcaga                                           20
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241 <211> LENGTH: 20
242 <212> TYPE: DNA
243 <213> ORGANISM: Artificial Sequence
245 <220> FEATURE:
246 <223> OTHER INFORMATION: Artificially Synthesized Primer Sequence
248 <400> SEQUENCE: 11
249 attaaccctc actaaagggc                                           20
251 <210> SEQ ID NO: 12
252 <211> LENGTH: 1325
253 <212> TYPE: DNA
254 <213> ORGANISM: Hypomyces mycophilus
256 <400> SEQUENCE: 12
257 caggacggcc actaatgtcg ccatgttggt tccgcaaggc aacctgagat tattggcatg   60
258 tggcccatac gatactccag catctgcaga agagattcaa gatcaaatcc agctcttgcg  120
259 agaggctatg gctcagggtg ctgtcgggat gtctagtggt ctcacttata cacccggcat  180
260 gtatgcttcc acgtcggaac tagcttctct gtgcgcggcc ctcgcacaag aatttccagg  240
261 tgcattctat gcgccacatc atagaagtta tgggttccag gccatcgaaa gttatgccga  300
262 aatgttggat ctcggagagt caacaggctg tcccattcat cttacacatg caacgctcaa  360
263 cttttcagaa aataagggta aagctcctgt cctcatctct atggttgata aatctcttgc  420
264 tgcaggcgtg gatgtcacac ttgatacgta tccatacttg ccaggctgta caactctggc  480
265 tgcattgctg ccaagtcggg catctgctgg cggcccacaa gagacgctta aaaggcttga  540
266 ggatgcagaa tcgagagaaa agattcgtat agccgtggaa atcaaagggt gtgatggcgg  600
267 ccatggtatt ccaaccaact gggacgaaat ccagatcggg acgactaatg aaccatcaat  660
268 cgcatcgtat tctggtcgca ggctatcaga agtggcacag tctgttggaa agccgaccat  720
269 cgaagtcttt ttcgagattc tgcaaaagga taagctcgca acgagctgta tcatgcatgt  780
270 tggcaatgaa gaaaacgtcc gacagatcat gcagcatcgg gtccatatgg caggcagtga  840
271 tgggatcttg cacgggcaga cgctacaccc acgagcttat ggcacattca cgcggtattt  900
272 aggacactat tctcgtgaac tctcgcttgt tgctctgccg tccatgatcg ctcaccttac  960
273 atcacggccc gccaaacgac tttcggtata tccatatcgc ggtctgattg ctgaaggatc 1020
274 cgctgccgac attgtggttt ttaaccccga aacggtaaag gatatgtcga cgtatgaaga 1080
275 gccaaaggtg ccaagtcggg gcattagatt tgttctagtt aacggccaga tagctgtgga 1140
276 cgaaggcaag atgacaggca caagaggggg taaaacactg agaagaagca ccgatggcaa 1200
277 ggtgaaggca agagatgagt aaagtctcga tctgcatccg cgtgcccaac aacaggatca 1260
278 agtcgtcaca gcatgatacg gcaggctttg gagtagatac catgtcatgg gggaaatggt 1320
279 caata                                                            1325
281 <210> SEQ ID NO: 13
282 <211> LENGTH: 21
283 <212> TYPE: DNA
284 <213> ORGANISM: Artificial Sequence
286 <220> FEATURE:
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 05/14/2002
PATENT APPLICATION: US/09/770,517C   TIME: 18:29:09

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF3\05142002\I770517C.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; N Pos. 18
Seq#:5; N Pos. 3,6,15
Seq#:6; N Pos. 3,9